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Art and death in Late Neolithic Sardinia: the role of carvings and paintings in *domus de janas* rock-cut tombs

Guillaume Robin

Abstract:

Sardinian Neolithic rock-cut tombs are not merely underground repositories, but complex and dynamic ritual architectures whose sequence of chambers was designed to host elaborate programmes of death ritual. The internal walls of about 250 of these tombs are decorated with carvings and paintings depicting architectural structures, cattle-head motifs and geometric designs. Research has often focused on classifying the motifs into typo-chronological categories, and little attention has been paid to their architectural setting and how art actually interacts with the spaces and structures of the tombs. How were art and architecture combined together in order to create a setting appropriate for deathways? The present article results from a systematic review of this art and discusses patterns in the distribution and position of the motifs inside the tombs. Motifs were repeatedly placed at a few specific locations, suggesting that they played an active role in standardized ritual uses of the tombs. It is argued that art significantly contributed to structure spaces, sequence rituals, shape the ceremonial experience of the tombs, and was therefore a key agent in Late Neolithic deathways.

Introduction

The carvings and paintings that decorate the walls of Neolithic tombs in Europe have long been described and discussed internationally: European-scale studies (e.g. Shee Twohig 1981; Bradley 1997, 2009) and conferences (e.g. L'Helgouac'h *et al.* 1997; Bello Diéguez 1997; Cochrane and Jones 2012) have contributed to make generations of scholars and students familiar with the motifs depicted in megalithic tombs in Ireland, Brittany, Iberia and Germany, and in the rock-cut tombs of the Paris basin or Malta. Surprisingly, Sardinia has long been let aside from the main streams of international studies on Neolithic art and monumentality in Western Europe (although see Melis 2000 or Cámara Serrano *et al.* 2010 for Mediterranean-wide contextualisation). Art is found in rock-cut tombs there, and cannot technically be classified as 'megalithic art' (*pace* Nash 2012, 2013). Nevertheless, with about 250 carved and painted *domus de janas* rock-cut tombs, Sardinia has by far the most significant concentration of decorated tombs in Europe for the Neolithic period (Tanda 1985; Meloni 2008; Robin 2016).

Sardinian domus de janas: a brief introduction

Domus de janas ('houses of the fairies') is the Sardinian name for the rock-cut tombs that were created throughout the island during the San Ciriaco, Ozieri, Sub-Ozieri, Filigosa and Abealzu cultures, which define the Late Neolithic (4400-3500 cal BC) and Copper Age (3500-2300 cal BC) periods in the island – also known as the 'pre-nuragic' period (Melis M.G. 2009, 2011, 2012a; Melis *et al.* 2012). Many *domus de janas* were continuously used and reused until the Bronze and sometimes Iron Ages. Recent figures estimate an overall number of at least 3500 *domus de janas* tombs in Sardinia (Tanda 2009).

Domus de janas are normally cut out of soft rocky slopes or small sandstone cliffs overlooking major river valleys (Fig. 1), and sites normally include several tombs seating next to each other in more or less regularly arranged clusters often termed as 'necropolises'. Most

striking is the complexity of the architectural design of the individual tombs. *Domus de janas* can be of various architectural forms or types, including simple ones made of a single chamber with an access shaft (Santoni 1976; Contu 2000) but one of the most current and classic types, which is also the one in which wall art is most frequently found, consists in a sequence of several architectural spaces connected together by access doorways. These spaces are: a semi-buried passage or *dromos*, an antechamber and a central, bigger chamber, which gives access to a varying number of smaller cells (Fig. 2).

The content of the few excavated *domus de janas* was often highly disturbed, with human remains and fragmentary objects (ceramic vessels, stone tools, body ornaments, sometimes human figurines) scattered across virtually all the internal spaces of the monuments, making it difficult to understand burial and ritual practices (Melis 2012a).

Why had these burial monuments so many different spaces combined together in such a recurrent sequence? What were they needed for? How did they operate together? The present article proposes to look at the way art is used on the walls and distributed within the tombs in order to gain insights on the signification of these spaces.

The art in Sardinian tombs is both carved and painted, and can be divided into three main categories: architectural art, bucrania and geometric motifs.

The first category includes motifs imitating wooden or stone construction features, which were presumably used in aboveground houses or other buildings during the Late Neolithic and Copper Age periods in Sardinia. It has long been argued that long mounds and megalithic tombs in Northern and Western Europe resemble houses in plan (e.g. Childe 1949; Hodder 1984; Laporte and Tinévez 2004) but Sardinian *domus de janas* are the only really convincing example having explicit imitation of architectural structures. *Domus de janas* often look like petrified houses (Fig. 2) and this is achieved by creating volumes similar to the inside of a house (cubic or semi-cylindric rooms with gabled ceilings supported by one or two pillars left in the solid rock) but also by depicting constructional features such as lintels, plinths, roof beams, doorways (including false doors), pilasters, hearth, etc. (Tanda 1984, vol. 2, 25-59; Melis M.G. 2010a; Tanda & Paglietti 2011; Arosio *et al.* 2016) (Fig. 2: b).

Sardinian tombs are often assumed to imitate actual dwelling structures, an assumption based on plan comparison with very scarce evidence of Neolithic houses in the island (Lilliu 1963, 113-21; Santoni 1976; Demartis 1985; Meloni 1998). But they actually may have imitated other kinds of structures, for example ceremonial buildings such as the ‘ritual house’ excavated on top of the Late Neolithic altar of Monte d’Accoddi (Ferrarese Ceruti 1967, 90-1; Tanda 1984, vol. 2, 52-3; 1985, 49; Melis 2007, 31-2; 2010, 333-5).

The second category of art is the bucranium, a representation of a cattle head with its horns, which predominates in the whole corpus: in 250 decorated tombs, 116 have one or more bucrania. As the work of Giuseppa Tanda has shown, bucranium motifs have a very rich typological diversity, ranging from semi-realistic depictions to very complex and abstract multiple compositions (Tanda 1977a; 1985; 2008). Based on early interpretations by Antonio Taramelli (1909), Christian Zervos (1954) and Giovanni Lilliu (1958), which have rarely been challenged since (Castaldi 1976; Cámara Serrano and Spanedda 2002), current explanations describe these motifs as the representations of a male deity, a Bull-God associated with a female Mother-Goddess, whose role is to look after the dead and their life (see Robin in prep. for a critical, alternative view).

The third category in the Sardinian repertoire includes geometric motifs, such as zigzags and spirals (Tanda 1985). Unlike bucrania, zigzag and triangle motifs have received little attention by archaeologists in Sardinia (Melis M.G. 2010b, 89-90). They have sometimes been interpreted as very abstract versions of cattle horns (e.g. Tanda 1977c, 200-3; 1985, 179-80; 2008, 110), although the regularity of their composition and their frequent vertical arrangement (with the 'horns' pointing sideways and not upwards as would cattle horns normally do) rather argue for a strictly geometric origin and nature. Spiral motifs, and particularly double-spirals, are also found in different tombs in Sardinia. They were also interpreted as abstract versions of cattle heads (Tanda 1977b), or goat heads (Lo Schiavo 1980, 64), but also as an Eye Goddess (Castaldi 1979, note 13; Tanda 1983, 264).

Other kinds of motif are much rarer, such as human 'orante' (praying) representations, which are believed to depict the dead (Contu 1965b; Tanda 1983, 262-3; Melis 2012a, 22; 2012b). They are known in a few tombs and are probably later Copper and Bronze Ages additions (Tanda 1989), and therefore were not part of the original design of the tombs in which they are found today. Hourglass-like or 'clepsydra' motifs, which may be abstract versions of human bodies (Tanda 1988), are also uncommon.

The largest part of the art is carved or incised, but *domus de janas* are also known for the use of paint (Tanda 2003). Red ochre and black manganese were often simply used as a way to enhance a doorway or a wall. But paint was sometimes used to depict particular motifs such as red zigzags and chessboard in Pubusattile (see Fig. 13: 6), which are thought to imitate textile patterns decorating house walls (Tanda 1992; see also Tanda 1988, 227). In Mandra Antine (Thiesi), black, red and white pigments were used to depict a complex panel combining horn motifs and spirals (Contu 1965a). The recently discovered and excavated tomb 7 at Sa Pala Larga in Bonorva is perhaps the most spectacular example in the island with several walls covered by large red spirals and a ceiling painted with black chessboard motifs (Usai *et al.* 2011). The present paper will not discuss what all these different motifs may have represented or referred to (e.g. objects, people, deities, animals, natural elements etc.) but will focus on the meaning of their location inside tombs.

Tomb spaces, wall motifs and death rituals: a new approach to Sardinian tomb art

What we know today about the art of Sardinian *domus de janas* is essentially due to the work of Giuseppa Tanda, who has been researching the subject comprehensively since the 1960s. In contrast with the rather speculative work of Christian Zervos (1954) or Giovanni Lilliu (1958), Tanda's approach has prioritized rigorous and systematic research such as cataloguing the art and classifying motifs – an approach that can be interestingly paralleled with the contemporaneous work of Elizabeth Shee Twohig on the megalithic art of Western Europe (Shee Twohig 1981). The main achievement of Tanda's research is a chrono-typological model for the evolution of the art, in particular bucrania, classifying the motifs into hypothetical sequences of development using the morphology of the motifs, their style (from simple/curvilinear/naturalistic to complex/rectilinear/abstract), as well as their monumental context and their association with material culture (Tanda 1977a; 1984; 1985; 1998a; 2008).

Tanda's comprehensive work represents the first and only overview so far of Neolithic tomb art in Sardinia with a detailed examination of the motifs. However, it has some limitations. The very poor dating of the *domus de janas* (including their decoration) does not permit to assess whether the various styles of the motifs really corresponds to separate chronological

phases. In addition, by focusing on individual motifs taken separately and by thinking them as culture-historical markers, this work gives less attention to the setting of the art, in particular the relationships between the motifs and the architectural spaces and structures of the tombs (Tanda 1977a, 15, 17-9; 1984, 93-94; 2007; 2008, 112-4, 116-9; 2012, 147-8; 2016 – see Robin 2016 for a detailed discussion)

The approach of the present article prioritizes the spatial setting of the motifs over their formal diversity. The aim is to focus on the agency (Gell 1998) and functionality of the art in order to address a simple, yet still unanswered, question: how was art used inside the tombs? What was the role of art in Late Neolithic death rituals?

Research questions and approach

As described above, Sardinian *domus de janas* combine different rooms and spaces, which are separated by liminal structures (doorways and thresholds), creating altogether a dynamic architectural setting (Fig. 2). As other multi-spaced burial monuments in Neolithic Europe, the likely function of *domus de janas* was to host and sequence complex ritual programmes associated with death and probably involving multiple episodes of body treatments (Melis 2012a). The term ‘deathways’ is used here to refer to the series of interactions with and transformations of the human remains that enact dying as a process of social transition (Kellehear 2007, Robb 2013). In traditional societies, death rituals are rites of passage performed in order to ensure a complete transition of the deceased from the society of the living to that of the dead (Hertz 1907; Van Gennep 1909; Bloch and Parry 1982). It is therefore important to consider the Sardinian tombs not only as repositories for the dead (Lilliu 1998; Contu 2000) or statements of social power (Spanedda 2009; Spanedda and Cámara Serrano 2011), but also as active apparatuses that were specifically designed to answer ritual needs: to spatially and ritually achieve deathways.

In that perspective, the role of the art and architectural space together as a setting for these rituals is a central issue. And addressing this issue requires considering art not as passive depictions of beliefs or references to house interiors, but as active participants in rituals, providing specific effects to both actors and objects involved in the process (Glaze 1981; Gell 1998). How were *domus de janas*’ art and architecture combined together and spatially designed in order to create appropriate setting for deathways? What were the ritual specifications that determined the creation and spatial arrangement of these structures and images? How was the display of motifs and colours useful for the performance and achievement of death rituals?

Methodology: a structural analysis of tomb art

The easiest way to answer these questions is to look at the spatial arrangement of the art. This means examining thoroughly and systematically where the images (both individually and as groups) are placed inside the tombs’ architectural space and how they interact spatially between them and with both individual structures and the overall plan of the monuments.

The research presented here result from two projects at the universities of Sassari (2009-2011) and Cambridge (2012-2014), cataloguing all known decorated tombs in Sardinia and compiling the plans and documentations of their art (photo, drawing, etc.). This was done through an extensive literature review, completed with fieldwork when visual material was inexistent or poorly produced in publications. A total of 250 decorated *domus de janas* was

listed across Sardinia. A catalogue was created, with plans showing the location of motifs (e.g. roof beam, bucranium, zigzag) for each individual tomb. This served as a basis for comparisons between sites and the identification of patterns in the position of motifs. It was also used to produce the basic statistics presented in the article. No GIS or particular statistical programme were used.

The central objective of the research was to identify patterns in the distribution and position of motifs. The article presents these patterns and discusses the effects that are potentially created by particular arrangements of motifs in relation to the ritual purpose of the monuments. It examines how art influences the experience and use of tombs as ceremonial spaces and how locational patterns in art indicate specific functions for these spaces. The article concludes with the implications of these results for our understanding of Late Neolithic deathways.

The paper focuses on the ‘fixed’ structural components of the tombs (art and architecture) and not on their ‘mobile’ contents (bodies and artefacts). The objective is to understand how tombs were thought out and designed as spatial settings for death rituals, not how they were actually used ritually and socially across time and what really happened inside them. These last questions, although closely linked to the ones being addressed here, require a dedicated research with its own methodology and problems, such as spatial and taphonomic analyses of the bones and artefacts recorded in early and recent excavations. Such a research has not been undertaken yet and these aspects will consequently not be discussed here.

Organising tomb spaces: the structuring role of architectural art

Let us start by examining how tombs’ spaces are articulated all together and the role that art plays in this arrangement. One category of art, which I have called ‘architectural’ art, is particularly important in structuring tomb spaces and the present section will deal with this category only. An interesting starting point is the motif of the false doorway (also called symbolic doorway). 48 monuments have such a motif, which was either carved, painted or both, and often associated with horns (see Fig. 18). The majority of these tombs have one single false doorway only and the motif is normally placed (in 45 cases out of 52, c. 87 per cent) on the back wall of the central chamber. A few other tombs have additional false doorways located in the antechamber or in a cell.

As I will argue now, tombs with symbolic doorways are made of two principal parts, which correspond to two distinct groups of spaces: the first part is a standardized sequence composed of the *dromos*, the antechamber and the chamber, whose spatial arrangement is guided by particular ornamental structures (false doorways, hearth, pillars, roof beams); the second part is represented by the cells, which are small irregular rooms bare of any form of art and with an apparently loose spatial organisation.

The dromos-antechamber-chamber (DAC) sequence: a standardized set of architectural spaces and art

Let us examine how false doorways, pillars, *columen* (central roof beams¹), and hearths are organised and combined spatially (Figs. 3&4). When one compares tombs having these features, it clearly appears that these ornamental components and the main architectural spaces (*dromos*, antechamber, chamber) are organised in a very standardized way that changes very little from one tomb to another. All seems to be organised along a single central

axis: a virtual, longitudinal line along which the main spaces of the tombs, the doorways connecting them, the hearth and ultimately the false doorway are aligned together.

This central axis is a fundamental structuring element of the design of the tombs, a sort of spinal column that organises the plan and determines the location of key ornamental elements within a large number of hypogea. Only 28 examples are shown in Figures 3 and 4, but much more tombs without false doorways are designed on the same central axis. The *dromos* is perhaps the most visible or explicit materialisation of this axis, being a long linear structure that can be up to 30 meters long (e.g. S'Elighe Entosu 4 in Usini – Melis M.G. 2010c).

It is worth noting that the location of the false doorway in these tombs is determined by the central axis and not by the geometrical centre of chambers' back wall: this explains the apparently decentred position of the false doorway in some chambers such as Tomba Maggiore at S'Adde 'e Asile (Fig. 3: 15) or Puttu Codinu 8 (Fig. 4: 7), which in fact are aligned with the doorways of the antechamber (Tanda 1984, 213, note 611).

What does this central virtual axis, which seems so important in many tombs, tell us? Principally that both the linear and segmented arrangement of the tomb spaces appears to have been a major requirement for the performance of Late Neolithic death rituals: with this virtual axis as a structural guideline, *domus de janas* are designed as a perfectly linear sequence of spaces and doorways. Through a combination of architectural volumes and artworks, this sequence clearly stresses notions of gradual progression and liminality from the outside world until the deepest wall in the tombs and its ultimate threshold: the false doorway.

Cells: flexible spaces with particular distributional principles

In contrast to the standardized, almost rigid, DAC sequence, cells appear to be arranged in a much more flexible way. Their number, size, location and distribution are much more loose and variable: for example, some tombs have 10 or more cells (Fig. 3: 2, 6, 15), others have 2 or 3 (Fig. 4: 1, 2, 3, 4, 7, 12) or even no cell at all (Fig. 3: 4, 10). Some cells are large, occasionally bigger than the central chamber itself (Fig. 3: 12), others are so small that it could hardly accommodate a complete human body (Fig. 3: 5, 6). Cells are normally accessed from any of the four walls of the chamber only, but in some tombs they were created from the antechamber. Apart from this, there seems to be no rule with positioning cells.

Another particularity is the architectural shape of the cells: with their irregular, rounded, globular volumes they contrast with the rectangular and symmetric design of the *dromos*-antechamber-chamber spaces. Finally, and remarkably, cells have no decoration besides very rare exception such as Mesu 'e Montes 2, Su Crucifissu Mannu 21 or Monte d'Accoddi 1.

How to explain the contrast between cells and the DAC sequence of the tombs, and the spatial variability and flexibility of the former? It is tempting to consider cells as the evolutionary and adaptive components of the tombs: while the DAC sequence embodies the ritual norm and should not be structurally altered across time, cells may have been created, added, reshaped as much as needed in order to adjust to the longevity and intensity of funerary use of the tombs across generations. Both may have played distinct roles in deathways: the DAC could have been the performative area of normatively scripted rituals, while cells were mostly repositories which could vary according to need. If so, the number and size of the cells, as indexes of use, would be good indicators of the social significance and temporality of each monument.

Now, if we look again at the distribution of the cells and how they ‘interact’ with the ornamental structures of the central chamber, one can put forward that their spatial arrangement is not totally random. Although the distribution of cells varies a lot, it appears in several tombs (Fig. 4) that their distribution is separated into two groups arranged on both side of another virtual line which runs perpendicularly across the middle of the chamber. This second axis, that I will call the ‘medial’ axis, exactly corresponds to the *columen* (the top central beam sculpted or painted on the roof of the tomb – see Fig. 2: c) and to the alignment of the two pillars within the central chamber of the tombs. The central and medial axes cross each other at the centre of the tomb, at the very location where the hearth is usually depicted on the floor of chambers (Fig. 4: 1, 2, 3, 8, 10). As a result, it appears that hearths play a central (pivotal) role in the structuration of the tomb space.

Tomb spaces are organised by two main horizontal axes but the latter have different working principles. While the central axis is a line of *orientation*, providing a spine column along which key architectural and ornamental elements are aligned and combined together, the medial axis is rather a line of *partition* that divides the chamber and the cells into two different groups of spaces. This spatial bi-partition can be achieved architecturally in different ways. In most of the cases, the cells and their access doorway are distributed on the two sides defined by the medial axis (Fig. 4: 2, 4, 5, 6, 7, 9). In other tombs, the cells are divided internally into two or more areas that correspond to the axis divide (Fig. 4: 1, 3, 8, 10). The internal division of the cell space is created by lines of relief or low walls (called ‘setti divisori’ in the Italian literature – Tanda 1985, 35) carved on the ground floor of the cells. At Li Curuneddi 1 (Fig. 4: 11) each of the two cells has two distinct access openings situated on both side of the medial axis, suggesting a bipartition of the cell space.

It may appear surprising to associate pillars and *columen* with the idea of partition and limit as, unlike walls or doorways, they are not explicit liminal structures. In some non-decorated tombs, however, the liminal symbolism of pillars is unambiguously represented: in tomb 33 at Montessu cemetery (Villaperuccio²), for instance, the main chamber is divided into two halves by a central transversal wall against which the usual two pillars are standing. Tombs 7 and 10 from the same complex have a similar partition wall within the chamber: these walls are closely associated with pairs of cut post-hole-like features on the ceiling and ground of the chambers, which are thought to have received two now-vanished pillars made of stone or wood. In Sardinian tombs, pillars do not have a technical function (they do not help support the roof, as large chambers without pillar demonstrate it) and their primary function is clearly a symbolic one.

In some decorated tombs shown in Figure 4 (4, 5, 10), short offset walls or pilasters emerging from the sidewalls of the chamber were created in lieu of the more usual detached pillars: they also create a certain sense of partition, cutting chambers into two halves. In tombs having a single central pillar in the chamber (see F and G in Fig. 8), the upright structure stands at the centre of a major line of relief (‘setto divisorio’), which runs across the ground of the chamber and divides it into two halves. Lastly, the unique occurrence of zigzags, whose function as a liminal motif will be shown below, on both pillars of Mesu ‘e Montes 2 in Ossi (Demartis and Canalis 1989), further argues for interpreting pillars as liminal markers inside the chambers.

Cells and areas in the chambers are thus symbolically separated and distinguished from each other: but what would be the reason for such a spatial partition? The first reason that comes to mind is a social one. As collective burials, *domus de janas* may have replicated or created

social differentiations and categories in the way bones were distributed in chambers and cells. 'Setti divisorii' and cell compartments could well be the Sardinian equivalent of, for example, the wooden partitions used inside Paris Basin collective burials of the French Late Neolithic, which were aimed at preventing human remains of different social groups from mingling (Leclerc 1997; Chambon 2003). Another possibility is that bones and bodies were progressively moved from one area to another as part of sequenced rituals across the tomb, with each deposition episode corresponding to particular processing of the soft tissues and bones. Unfortunately, these ideas are very difficult to test in the absence of a detailed overview of the content of cells and chambers, and of anthropological examination of the bones.

So far we have considered only one category of art (architectural art) and how tomb spaces as a whole are organised. We will now focus on another category of motifs, the bucrania, and examine how they help define particular spaces inside the Sardinian tombs.

Bucrania: framing special areas in tombs

Bucrania are the most frequent category of motif in Sardinia, being represented in 183 walls from 116 tombs. A basic statistical overview of the distribution of bucrania inside tombs (Fig. 5) shows that the motifs are preferably placed in chambers and antechambers, especially on the back wall of these rooms. But bucrania are also found on other walls, as well as in the 'portal' area of the *dromos* and sometimes within cells.

The majority of bucrania are closely associated with a doorway: on the 396 individual bucrania or horn motifs I have listed, 246 (62 per cent) are directly associated to a doorway (either real or false). These will be discussed in the next section dedicated to decorated doorways. The other bucrania are found on pillars (17 per cent), on sidewalls of antechambers (10 per cent), on back wall of chambers (bare of false doorway) (7 per cent), on sidewalls of chambers (2 per cent) and in cells (1 per cent). The present section will focus on antechambers and chambers. In these spaces, analyses show that the motifs are arranged in very specific ways, telling us something about the ritual functions of bucrania.

Bucrania in antechambers

As noted by Tanda (1977a, 17), the main pattern in antechambers consists of placing bucrania and horn motifs on the sidewalls of the antechamber, so that they can face each other in a symmetrical arrangement. Figures 6 and 7 show this pattern, which is found in 11 tombs in Sardinia. This arrangement creates a particular effect while visiting the monument: being in these antechambers is like being framed or surrounded by bucrania, and this is particularly well achieved when motifs are stretched over the whole length of the walls (see A, B, C, E, F, G in Fig. 7).

There are of course a few exceptions: asymmetric arrangements (Furrighesos tomb 11, Tanda 1984) or bucrania on one side wall only (Noeddale tomb 3, Tanda 1977b; Mesu 'e Montes tomb 2, Demartis and Canalis 1989; Sant' Ambrogio tomb 1, Tanda 1984, 115; Angelu Riju tomb A, Contu 1962; Tomba Maggiore at S' Adde 'e Asile, Tanda 1977a) are also found. However, the majority of antechambers with decorated sidewalls have such a symmetrical pattern, whatever the style or typology of the bucrania used for it.

Bucrania in chambers

Let us move now to the central main chamber of the tombs to see how bucrania are used there. When bucrania are not associated with doorways (see below), most of them are found on the pillars, which are located exclusively in chambers (never in antechambers). Some chambers have two pillars and others have only one pillar, which is normally placed at the very centre of the chamber. Interestingly, bucrania are found in consistent positions within each of these two categories of chambers. In single-pillared chambers, bucrania are placed on the *front face* of the pillar that looks towards the entrance of the chamber (Figs. 8&9 right). In some of these tombs, additional bucrania may be also placed on other faces of the pillar, but that remains rare (Fig. 8: E, H, J).

In double-pillared chambers, on the other hand, bucrania are positioned on the *lateral* face of the pillars that looks towards the centre of the chamber (Figs. 9 left&10). Some chambers have bucrania on both pillars, facing each other across the centre of the chamber (Fig. 10: A, D, J). Two tombs also have additional bucrania on the back and front faces of a pillar (Fig. 10: C, H). Only one exception has been found to this pattern (Monte Siseri tomb 1 – Fig. 2).

Here also, locational patterns transcend stylistic or typological categories of the motifs. Bucrania on pillars belong to many different formal types as defined by previous scholars, but they are all occupying the same positions and presumably playing the same roles inside chambers.

The difference of bucrania position between single-pillared and double-pillared chambers suggests that the motifs were used there for two different functions or effects. In the first case, bucrania are facing the chambers' entrance and may have been intended to the persons entering the chamber from the antechamber. They are marking the passage into the chamber. In the second category (two pillars), bucrania are facing the central area of the chamber (or even framing it, when both pillars are carved), giving a particular importance to that area, maybe as the central place for ritual activity. This central area is also where hearth motifs are most frequently found (see above). In addition, someone stationing there will be positioned right in front of the symbolic doorway in a ritually-strategic position (see Fig. 2: a, b). Finally, pillars have been interpreted above as liminal markers: passing between them (and between their bucrania) to access the back half of the chamber may also have constituted a special step in ritual movement inside the tombs³.

Our last case study is the back wall of chambers that are decorated with bucrania but without symbolic doorway (back walls with bucrania *and* symbolic doorways are discussed below in the section on doorways). Such back walls are found in 14 tombs in Sardinia, and they all show the same pattern: bucrania are found in pairs of two motifs, symmetrically arranged side by side or one of top of the other on the centre of the wall⁴ (Figs. 11&12). In the same way as symbolic doorways, these pairs of bucrania are always facing the entrance of the chamber on the opposite wall, in alignment with the antechamber's doorways. They are thus positioned on the key central axis of the tomb.

When back walls of chambers have a symbolic doorway, the latter is often associated with horn motifs whose number varies significantly from one, two, three or more (see below and Fig. 17). But when back walls do not have a symbolic doorway, bucranium ornamentation invariably consists in two motifs arranged in a symmetric way. This striking pattern leads to the question whether pairs of bucrania found on the back wall of these 14 tombs cannot be considered as substitute for symbolic doorways. As will be shown below, the majority of

bucrania found in Sardinian tombs are directly associated with a doorway: was the idea of passage/threshold so strongly attached to the motif itself that its simple presence on a back wall had the effect of suggesting a symbolic passageway there?

This interpretation is supported by the fact that pairs of bucrania are also found elsewhere in the tombs and are associated with liminal spaces: in antechambers, as described above, pairs of bucrania are facing each other from the side walls and one needs to pass between them in to reach the chamber; similarly, pairs of pillars in chambers sometimes have two bucrania facing each other and accessing the back part of the chamber involves passing between them. As 'navigation marks', pairs of bucrania are acting as symbolic gates through which one has to pass as part of the ritual progression along the central axis of the tomb. Placing such a pair of bucrania on chambers' back wall was potentially an alternative to depicting a (more explicit) doorway motif for the similar ritual purpose.

Art and doorways: stressing process of passage and transition

Doorways are found at various locations inside *domus de janas* where they are used not only to separate but also to articulate the diverse architectural spaces of the tombs. By creating a barrier between these spaces but also by enabling a controlled communication between them, doorways had a key role in the architectural dynamic of the tombs and in the sequencing of space, movement, and ritual. With such a ritual importance, it is not surprising that various kinds of art particularly concentrate on doorways.

Doorways with zigzags and triangles

In the Neolithic rock-cut tombs of Sardinia, zigzag and triangle motifs are almost exclusively associated to doorways and thresholds⁵ (Fig. 13). They can be described as 'threshold signs' as the zigzags in the megalithic tombs of Western Europe (Robin 2009, 179-88; 2010).

But where are zigzag-marked doorways located inside the tombs? What limit and transition are they emphasizing? Of the 16 recorded doorways, five give access from the antechamber to the chamber, one from the antechamber to a cell, three are the false doorway on the back wall of a chamber, five give access from the chamber to a cell, and one from a cell to another subsequent cell. For one last case (tomb of Coda di Palma in Sennori, unpublished), the exact location of the doorway is not known. No clear pattern can be discerned in the position of zigzag-marked doorways. If marking a doorway with zigzags and triangles gave a particular importance to the passage it embodied, then, passing from the antechamber to the chamber, or from the chamber to a cell seems to have been equally important in the ritual use of the tombs. However, doorways with red paint and bucrania give us a more contrasted and interesting figure.

Red-painted doorways

In the vast majority of tombs where remains of paint were recorded, pigments are not used to create a motif but to colour wall surfaces or already existing sculpted motifs. They are predominantly found on the walls of antechambers and chambers (Tanda 2003, 470), but also frequently on doorways (Fig. 14). I have listed 17 doorways with remnant of red paint, and most of them (12) are doorways giving access from the antechamber to the chamber⁶, an interesting pattern that is replicated by the bucrania and further discussed below.

Why paint doorways in red? Most of the interpretations about the use of this colour has been formulated in terms of symbolism and metaphors: following Lilliu (1958, 18), red paint in *domus de janas* has always been explained as referring to blood as a symbol of life and regeneration of the dead (e.g. Contu 1965a, 250; 2000, 325; Tanda 1984, vol. 2, 64; Demartis 1985, 113; Campus 1993, 106; Moravetti 1994, 96; Cossu 1997, 310; Meloni 2005, 55; Loi 2006, 156; Melis M.G. 2008, 112; Melis P. 2010, 333). Another way to explain this is to think about the visual properties and psychological effects of red paint. Using this colorant to cover a doorway is a very efficient way to make it visually special, distinct from the other rock surfaces and walls left blank in the tomb, as well as to raise awareness. Research in colour psychology have shown that red is more an exciting than calming colour within architectural environments (Augustin 2009, 49; Mahnke 1996) and, more interestingly, that it is perceived as a warning cue in performance related task and is to cause avoidance behaviour (Jalil *et al.* 2012; Maier *et al.*, 2008; Elliot *et al.* 2009). Red paint on Sardinian doorways may have been used to warn visitors about the particular importance of some doorways and the ‘risks’ incurred when passing through them. Complex arrangements of zigzags and triangles, which are found only on doorways, may have been created for the same visual and psychological effects as part of a same strategy of producing awareness around special doorways. Passing through these doorways was clearly not a trivial step within the ritual programmes taking place inside tombs, and the role of zigzags and red paint on doorways was probably to remind this to both audience and performers.

Doorways with bucrania and horn motifs

As mentioned above, the majority (62 per cent) of bucrania are closely associated with doorways and thresholds inside tombs. Most of them are placed directly over a doorway, in a central position (Figs. 15,16,17&18). Different styles of bucrania and horns are found in this particular position in tombs. Some of them are very common such as the double horns without head (Fig. 15: F, J, K, L; Fig. 16), while complete bucrania and complex motifs made of more than two horns are rarer.

Some motifs are particularly wide and large, taking a real monumental dimension (Figs. 17&18). The latter style generally consists of a stack of several thick, linear stylized horns that are placed over and on the side of a doorway, which is completely integrated into the design (Tanda 1977a, 14-16, 19; 2007; 2008). It has been suggested that the doorway itself embodied the head of the animal (or god) within the composition, with special propitiatory effect for those living or dead spirits passing through it (Contu 1965a, 250-2; Tanda 1984, 64, 75-6, 2007, 129; Melis M.G. 2010b, 90). These ‘monumental’ horns are in majority found in the main chamber of the tombs (87 per cent), either around the false doorway on the back wall of the room (52 per cent) and/or around the entrance doorway in front of it (35 per cent). They show the particular importance of the ultimate (false) doorway in tombs. Unlike smaller horns and bucranium motifs, they are never associated with doorways leading to a cell.

Bucrania can also be placed on the side of doorways (Fig. 10) but this is a less frequent arrangement, representing only 24 per cent of bucrania associated with doorways (76 per cent of bucrania associated with doorways are found *over* doorways).

Most of the tombs (59 out of 81) have no more than one bucranium-decorated doorway; only a minority (22 out of 81) have several of them located at diverse transitional points. When one examines the spatial relationships between such doorways inside each of these tombs it is difficult to identify any recurring arrangement or logic. However, if we concentrate on one

particular style of motif - the multiple rectilinear horns (Fig. 15: J to N) - an interesting pattern emerges: in the two monuments where they appear more than once (Fig. 20), the number of the horns composing each motif decreases progressively as one goes deeper into the tombs. At Littoslongos (Fig. 20: left), four horns are over the portal entrance, three over the doorway leading to the antechamber, and finally two over a doorway to subsequent cells. At Nenaldù Multinu (Fig. 20: right), three horns are over the entrance to the chamber, two on the back wall of the chamber. Does the number of horns reflect the progressively decreasing number of spaces ahead as one walks through the underground monuments? Whatever the meaning, this shows that some tombs were designed with true 'iconographic programmes', coordinating several motifs from different spaces together.

Considering the whole corpus of doorways with bucrania, can we detect any preference in their location within tombs? A basic statistical analysis shows that doorways decorated with (one or more) bucrania are more often located between the antechamber and the chamber (34 out of 103 doorways, c. 34 per cent) (Fig. 5). The other doorways decorated with this motif are found: between the chamber and a recess (22 per cent), on the back wall of the chamber (false doorway) (20 per cent) or between the chamber and the antechamber, on the way back to the outside (15 per cent). Doorways with bucrania are much rarer in the initial parts of the monuments (one per cent from *dromos* to portal; one per cent from portal to *dromos*; seven per cent from *dromos*/portal to antechamber; and three per cent from antechamber to *dromos*/portal).

If we accept the idea that the creation of a bucranium marked the special significance of a doorway, what we learn here is that the passage from the antechamber to the chamber was the most significant step inside the Sardinian tombs. This is an important conclusion, which suggests that the articulation of these two rooms was particularly important within the architectural dynamic of the tombs, but also that both spaces were clearly and efficiently separated. Passing from the first to the second implied a significant change: being in the antechamber was not like being in the chamber, and the ritual activities that were performed in those rooms were probably very different in nature or in purpose. What were the functions of antechambers and chambers respectively within death rituals? How did they differ from each other and how were they articulated together?

Discussion: art and rituals in the antechamber-chamber sequence

Differences in the placement of art in antechambers and chambers

In Sardinian *domus de janas*, antechambers and chambers are closely associated components that are part of what I have called the standard 'DAC sequence'. Both spaces share a common repertoire of motifs such as bucrania and architectural features. However, a detailed analysis reveals that specific categories of motifs are positioned in completely different manners in these two spaces. Here I will briefly examine these differences and explore the idea that art was used to help make chambers and antechambers distinct spaces with their own specifications as ritual settings.

Let us start with general figures: as we know, art is very rarely found in cells and in the *dromos*, but how is art generally present or absent in antechambers and chambers? A rapid statistical counting shows that chambers are slightly more often decorated than antechamber: in 169 decorated rock-cut tombs (for which I was able to verify the exact presence and

distribution of art), 35 have decoration in both rooms, 68 only in the chamber and 66 only in the antechamber.

This is an interesting result, showing that only a minority of tombs have art in both the antechamber and chamber, and that there is an equal proportion of tombs with art in the antechamber only and ones with art in the chamber only. In other words, in most of the tombs, Late Neolithic Sardinians decided to make art in *either* the antechamber *or* the chamber exclusively. Why?

The exclusion of art in chambers or antechambers has been explained in terms of ritual change over time: at some periods, rituals and associated art would be performed in antechambers while in others, they happened in chambers (Santoni 1976; Tanda 1977a, 19-21). It is also possible, however, that each category of monuments (antechamber-decorated and chamber-decorated) had different yet complementary roles within cemeteries. It would be interesting to compare the location of those different tombs in the landscape and within tomb complexes. In the absence of such a study, we must consider that the decision of making art inside chambers or antechambers was a matter of local choices, which varied across places and time.

We also must be wary of such basic and overall ('blind') statistics, which does not consider the exact location of art within tombs and their spaces. For example, the presence of art in an antechamber does not mean necessarily that art is exclusively associated with this space: many tombs have horn motifs positioned over the doorway that leads from the antechamber to the chamber (see above). In these tombs, art is used to mark the passage between both spaces and is not particularly associated with the antechamber as opposed to the chamber: art is rather associated to the passage in-between.

I will leave the overall quantitative differences between chambers and antechambers in order to focus on the qualitative ones, i.e. the contrasting patterns in the placement of particular motifs. We have seen above how bucrania are placed in antechambers and in chambers according to their own respective norms: symmetric arrangement of motifs on sidewalls in antechambers, motifs on pillars and pairs of bucrania on back walls in chambers. Such differences are even more explicit when considering a special style of bucranium (Fig. 21) and of motifs in double spirals (Fig. 22): inside antechambers, they are found on *side* walls only (never on the back and front walls), while inside chambers they are found on *back* and *front* walls only and never on side walls. The only exception here is Montalè tomb 5, where five of those special bucrania are found on the four walls of the chamber (Basoli and Foschi Nieddu 1988).

False doorways can also be added to the series: the majority of them are found on the back wall of the chamber, but in Monter Siseri tomb 1 (Fig. 2), and possibly in Tomba delle Finestrelle in Ossi (Demartis 1980), false doorways are also represented on the side walls of the antechamber.

Finally, about 44 tombs in Sardinia have sculpted or painted roof beams on ceiling from which only eight have such decoration in both the chamber and antechamber. For five of them, the *columen* and offset beams have a different orientation in the chamber and antechamber (Fig. 23). In two other tombs, Tanca Bullittas in Alghero (Tanda 1977a) and Puttu Codinu tomb 8 in Villanova Monteleone (Demartis 1991), antechamber's and chamber's beam decoration differs in style, not in orientation. The only exception is Mesu 'e

Montes tomb 16 (Derudas 2004), where the chamber and antechamber have a *columen* and lateral beams oriented the same way.

The opposed orientation of roof structures can be explained as the truthful reproduction of the construction technique used in Late Neolithic houses in Sardinia. However, taken with the other motifs examples described above, this ornamental feature can also be regarded as an additional evidence of distributed art emphasising the difference between chambers and antechambers as ritual spaces.

Antechambers vs. chambers: ritual specifications

What specific role(s) and function(s) were given to the two spaces as part of overall death rituals being performed in the tombs? Were chambers the main arena for ritual activities and antechambers limited to a role of transitional space? Or did they both host separate yet complementary rites?

Surprisingly little has been written on the respective roles of antechambers and chambers in *domus de janas* or on why so many tombs required both spaces in combination. This is probably due to rock-cut tombs being primarily regarded by archaeologists since Lilliu (1963, 113-21) as faithful reproduction of above-ground dwelling or ceremonial structures: the antechamber-chamber sequence is implicitly seen not as a feature specifically created for death rituals but rather as an evocation of the houses of the living (Ferrarese Ceruti 1967; Tanda 1984, vol. 2, 51-59; Demartis 1985; Arosio *et al.* 2016). This assumption was subsequently reinforced by the discovery and survey of the presumably Late Neolithic settlement at Serra Linta in Sedilo (Tanda 1998b), whose stone-based ‘houses’ offered the first (and still unique today) evidence of non-funerary structures similar in design to *domus de janas*, with a semi-circular entrance room (or antechamber) followed by a bigger rectangular chamber (Melis P. 2007, 32; Melis M.G. 2010a, 158). Regrettably, nothing has been written about any specific functions for antechambers and chambers in the Serra Linta structures.

Only a few authors have offered ideas on distinct roles for antechambers and chambers in *domus de janas* tombs, and all of them are based on a ‘burial vs. ceremonial’ dichotomy. Ercole Contu, in his comprehensive excavation report of Santu Pedru tomb 1 in Alghero, noted that no human remains were found in the semi-circular antechamber of the monument nor in the antechamber of other sites, and suggested that this space was used for non-burial purposes such as rites of incubation (Contu 1964, col. 71-3). Giuseppa Tanda argued that antechambers were originally designed to be the performative area for ceremonies with the chamber being the undecorated repositories for burials, and that ceremonies and art were later relocated to the chamber in order to accommodate an increasing number of participants (1977a, 19-21; 1984, 73-6).

Another potential interpretation is to see antechamber as the ‘public’ part of the tomb: a space that is easily accessible or visible from the outside, and that the tomb-owners would have used for social display through conspicuous carvings and paintings. This idea implies regarding tomb art as indexes of social status rather than ritual agents, although both strategies are not incompatible (see Robin in prep.). The chamber and related cells would be the ‘private’ section of the tombs where access to and interactions with the dead would be materially and socially restricted to relatives of the tomb-owners. The concentration of art on the doorway between the antechamber and the chamber would have served a double purpose: displaying indexes of wealth and status to the public audience outside, and warding off non-authorised

visitors from entering the private area of the monuments and the ancestors. Many tombs in Ancient Egypt had such public and private spaces combined together, each serving distinct social and ritual strategies (Snape 2011). In Sardinian tombs, the idea is limited by the fact that antechambers are quite small rooms, much smaller than the main chambers: in most ‘typical’ tombs the former can accommodate about two persons while the latter can reasonably host about six. However, several ‘unusual’ tombs do have a very large antechamber preceding a smaller chamber, especially tombs with a semi-circular antechamber such as Santu Pedru tomb 1 in Alghero, Molia tombs 1, 4 and 7 in Illorai (Tanda 1980), Mesu ‘e Montes tomb 13 in Ossi (Derudas 2004), Monte Crobu in Carbonia (Cocco 1988), Sas Lozas tomb 1 in Sorradile (Nieddu 2000), Ludurru tomb 1 in Buddusò (Baltolu 1973), Mandra Antine tomb 1 in Thiesi (Contu 1965a), Sas Concas in Oniferi, Sa Spelunca de Nonna in Cuglieri, Monte Pertusu in Ploaghe, Ispiluncas tomb 1 in Sedilo (Meloni 1998), and others. In these monuments, the antechamber may have accommodated several visitors and acted as a public arena for both social and ritual activities.

Interpreting the roles of antechambers and chambers on the basis of a ‘burial vs. ceremonial’ dichotomy is problematic however. The absence (or less frequent occurrence) of human bones in the antechamber of excavated *domus de janas* (whenever recorded) should not necessarily be interpreted as the absence of body treatment and death rituals there: both the antechamber and chamber may have been used together for sequenced rituals involving several episodes of deposition, movement and modification of body parts from one space to another (see Robb *et al.* 2015 for a recent example). The supposed higher presence of human remains in cells and chambers may only reflect the ultimate phase of death rituals. We are sadly lacking of data here: only a detailed review of a significant number of excavation reports, together with new excavation in well preserved tombs, could help us satisfactorily assess how art had an effect on the actual deployment of ritual activities inside the *domus de janas*.

In the absence of such a review I would personally prefer to see the tomb as a unified whole and primarily as a single, dynamic and complex ritual space, whose each component played a particular role as part of the *chaîne opératoire* of death rituals, involving various actions such as moving, depositing or manipulating bodies and artefacts, static positions in rooms and crucial movement such as passing doorways. Both antechamber and chamber (as well as *dromos* and cells) would have involved ritual actors and bodies of the dead. As Maria Grazia Melis has recently postulated, ‘the hypogeum is not simply a container for the rest of the dead but the space through which the gradual passage to the other world is acted in a gradual projection from the outside to the deeper parts of the tombs until the false doorway... and beyond. Tombs may have been structured according to an articulated sequence of gestures: manipulation of cadavers (scarnification); intermediary deposition and rites in the central chamber; final deposition in the secondary cells.’ (Melis 2012a, 22 – my translation). This view seems to be well supported by various elements described in the present article: the significant emphasis on limits, passage and transitions with highly decorated doorways; the linear arrangement of rooms and the central axis linking gradually the outside world, the antechamber, the chamber and the false doorway.

Conclusion

The various patterns presented and discussed in this article provide us with new insights for our understanding of Sardinian tombs as ritual architectures. Before to review these new interpretations I would like to briefly stress the methodological implications of this research for the study of Neolithic tomb art in Sardinia and beyond.

Methodological implications: typological and spatial approaches to tomb art

One of the most important overall results of the present research is the demonstration that there is no or only little correlation between the morphological characteristics of the motifs and their architectural function within the tombs. For example, the bucrania placed on single pillars in chambers (Fig. 8) have essentially all the same specific function, yet they all belong to very different stylistic categories. The same applies to bucrania found over doorways (Fig. 15) or on the sidewalls of antechambers (Fig. 7) and many others. The architectural functions of bucrania transcend the stylistic differences of the motifs.

The implication of this result is that morphological and stylistic aspects of the motifs should not be given all or most of our concern. Tradition typological approaches have some strengths, such as providing synthetic views of the content of the art and showing its formal variability, but they are not necessarily the best method to understand the art and especially how it operated inside monuments. Focusing too much on styles and types can even be misleading: formal typological works tend to artificially create rigid, hermetic categories that prevent us from seeing patterns in the placement and use of motifs in tombs. This is particularly relevant for bucrania. Tanda's detailed and elaborate typologies of bucrania (1977a, 1984, 1985, 2008), for instance, tend to consider each style of motif as a separate tradition related to a chronological phase, with no connections with motifs from other categories. Such categorization eventually proves to be an obstacle to achieving a contextual understanding of the art.

The present research has prioritised the spatial setting of the motifs over their form, investigating decorated structures (pillars, doorways, walls, ceilings) rather than individual motifs. Its ultimate objective is not only to better understand the art itself but also the tombs generally and their use as ritual settings.

Implications for our understanding of Neolithic tombs as dynamic ritual spaces

Sardinian *domus de janas* are an original regional version of the pan-European Neolithic tomb tradition and one of particular interest because it combines a complex architectural design with a rich and diverse imagery. The function of these monuments was clearly not limited to the simple disposal of dead bodies: they were dynamic ceremonial architectures, specifically designed to host elaborate ritual programmes in which art played a significant role. The patterns observed in the placement of carved and painted motifs allow us to identify some key specificities of Neolithic death rituals.

For example, the sequencing of the ritual into several distinct spaces – and therefore times – emerges as a fundamental aspect of deathways in Late Neolithic Sardinia. Decorated tombs are normatively designed as a sequence combining a ceremonial pathway (*dromos*), a transitional space (antechamber) and a bigger performative space (chamber) giving access to small repositories (cells). The linear arrangement of these spaces along a same axis is emphasised by the alignment of the doorways and other architectural motifs such as the hearth. Bucrania were placed on the walls of antechambers and the pillars of chambers in order to frame particular areas, which may have been the focal points for particularly important phases and actions within the ritual process. The respective roles of the antechamber and chamber are not clear: they may have been used separately for different kinds of activities (body processing, depositions, social display, etc.) but they more probably

operated together as part of integrated, gradual ritual programmes involving various stages, static phases and movements for both living actors and dead bodies.

The notions of liminality, passage and transition seem to have been another crucial aspect of Late Neolithic death rituals in Sardinia. The co-axial arrangement of the circulation spaces (*dromos*, antechamber, chamber) and the physical and visual emphasis on doorways show us that death rituals required a linear ceremonial structure connecting progressively and restrictively the outside world to a symbolic doorway through a sequence of spaces physically separated by special thresholds. Doorways are the most frequently decorated surfaces in *domus de janas*. This is where we find most of the bucrania motifs as well as complex arrangements of zigzags and triangles, which are only exceptionally found on other structures of the tombs. Some of these thresholds were more important than others. The most frequent occurrence of bucrania, zigzags and red paint on the back doorway of antechambers shows that passing from the antechamber to the chamber was a major step in ritual programmes. The ultimate (false) doorway was another crucial liminal point in the tombs and were most often given the largest types of bucrania, which can be up to six meters wide. These different motifs certainly had specific meanings on their own, but their most obvious ritual function was to define thresholds and make visitors aware of particularly important liminal points in tombs.

Such an emphasis on liminality and gradual transition is not really surprising in a context of death. Since the seminal works of Robert Herz (1907) and Arnold Van Gennep (1909), social anthropologists have long emphasised the role of death rituals as a process of social transition, as a complex series of actions on and around the body of dead people to help them leaving the community of the living and passing safely to the community of the dead (Huntington and Metcalf 1979; Bloch and Parry 1982; Kellehear 2007; see also Laneri 2007; Robb 2013). In Sardinia, this major social transition was given a complex physical and visual setting to be enacted. Neolithic *domus de janas* not only enabled to separate the world of the living from the world of the dead and to protect them from each other, they created an interface between them, a highly elaborate gradual scale allowing access and interaction between both and helping dead people successfully pass from one society to the other. By organising spaces, framing dedicated areas, defining thresholds, and transforming the experience of tombs, art clearly had more than a passive ornamental or referential role: it was a key agent within ritual process.

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Notes

¹ The term *columen* originally refers to the central roof beam sculpted or painted on the ceiling of Etruscan tombs (Steingraber 2006); it is not normally used in the literature dealing with Neolithic *domus de janas* tombs. However, in Sardinia as in Etruscan tombs, I think this central beam had a particularly important role in defining tomb space and therefore needs to be designed under a specific term.

² The famous cemetery of Montessu, now open to the public, was excavated in the 1970s-1980s and is still awaiting publication.

³ Note that most of the single-pillared tombs do not have a symbolic doorway on back wall while most of double-pillared tombs do. Note also the way pillars are associated with a line of separation on the ground (Fig. 8: C, D, F, G, J; Fig. 10: A, C, D, J), making bucranium-pillars a kind of markers of limit and transition. Interestingly as well, rectilinear bucrania are almost never found on the sidewalls of antechambers (1 case in Sos Furrighesos 11) nor on pillars (1 case in Anghelu Ruju 20b): this particular style of motif is really dedicated to doorways, both real and symbolic ones (Contu 1966, 197; Tanda 1977a, 15; 2007; 2008, 112, 116-9).

⁴ Tomb 9 at Sos Furrighesos (Tanda 1984) is the only exception here: the back wall has no symbolic doorway nor a pair of bucrania but a complex superimposition of dozens of incised and pecked U-shaped bucranium motifs, resulting from several episodes of carving over time rather than from a single ornamentation programme. Similar engravings are found on other walls of the tomb as well as inside the neighbouring tomb 9, which has a symbolic doorway. These examples of multiphase, additive artwork are only found in this site and are singular, isolated cases with no other parallels in Sardinia.

⁵ Exceptions are: Tanca dell'Oliveto (Sassari – unpublished), Mesu 'e Montes tomb 2 (Ossi – Demartis and Canalis 1989), Sa Pala Larga tomb 1 (Bonorva – Solinas 2003) and Sos Baddulesos tomb 4 (Usini – Fois 2010), where horizontal rows of zigzags or triangles are incised on the whole length of the lateral walls of the antechamber or chamber, in a position that cannot really be interpreted as a liminal zones within the tomb design. The motifs, however, are often placed on the top edge of the wall, along the ceiling of the tomb, where they have been interpreted as the depiction of a construction or ornamental feature from houses (Tanda 1988, 227, note 61; 1990b; Melis M.G. 2010b, 85). This is a well plausible explanation, but if we think in terms of landscape and cosmology they may also mark the ceiling of the tombs as a fundamental limit separating the underworld (the tombs) from the upper world: the plateau located right above the tombs, where settlements were likely located (D'Anna, Guendon and Soula 2010). Other zigzags were incised along the two pillars of the chamber of Mesu 'e Montes tomb 2: as I have argued above, pillars may have acted as liminal markers within tombs and the singular occurrence of zigzags on these structures brings an additional argument.

⁶ Tombs with red-painted doorways leading (1) from the antechamber to the chamber are: NU.Lu.SCSP, OG.Lo.Tr10, OG.Ta.Si4, OR.Mo.Pa, OR.Se.II2, SS.Al.SP1, SS.An.SF15, SS.Ci.SM1, SS.It.SI2, SS.NSN.SI, SS.Os.SAAF, SS.Sa.PS2; (2) from the *dromos* to the antechamber: SS.Ci.SM1, SS.Pu.MS1; (3) from the chamber to a cell: OR.Bu.Ca2; (4) tombs with paintings (excluding other motifs) on false doorways: OR.Bu.Ca9, SS.Al.SP1 (see Figure 24 for full name of sites with references).